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There are two very specific reasons why this piece was researched and written. The first is a continuation of my work done on Stuart Chase (various publications). I am still hopeful my efforts will inspire an historian to do a 1000 page biography on Stuart Chase. The second is further example why my idea of using Verne's book as the basis for a one-day management seminar is worth trying. I've explored this idea with a number of friends and hope that this piece will take at least one of them to try this idea.

I am classifying this as a casual piece and have no interest in this being written for a vigorous academic review. I've read many items about Jules Verne (see bibliography) but I realize that I will never be a literary critic or good enough in the French language to be an even adequate scholar of Jules Verne. However, I've done a number of CPE programs and think that The Mysterious Island would make an excellent base for a really winning one-day seminar.

To do this, I have listed numerous excerpts from the book (see list), that I believe have management overtones, in almost a TV Reality Show.

The Mysterious Island is an exciting book with very well-developed characters. There were five males (4 men and a boy of about 14 or 15 years old) who escaped from 1865 Richmond, VA by balloon during a hurricane. They landed in the Pacific on an island they later named Lincoln Island. (I had read Verne's Twenty Thousand Leagues Under the Sea and Around the World in 80 Days as a child but never read The Mysterious Island until I found Chase's reference to it. Too bad that it took 60+ years to read the book).

The five main characters are: Cyrus Harding, an engineer with the Union Army; Gideon Spilet, a journalist with the New York Herald; Pencroft, a sailor and handyman; Herbert, the boy filled with natural history information and with a tremendous quest for knowledge; and Neb, a former slave of Captain Harding and now a freedman but still devoted to his former master. Let's be blunt about this. Jules Verne in 1874 might have been hailed as a progressive in racial matters but in 2006 Verne's treatment of Neb would be viewed as stereotypical of a racial bigot.

This represents a real problem for using the book for a management seminar in 2006. If I were to run this risk, I would immediately deal with this stereotypical view by using Verne's work as an example of how difficult it has been for Black Americans to attain equality. If the leader of the management seminar is not comfortable with this, the leader must not have the group read the story but could use excerpts from The Mysterious Island.

Verne's book (like many of his works) avoided female characters. (In fact, Verne's biographers find Verne to be very chauvinistic in his personal life.) The story can be used as stereotypical of male/female role models of 1874. Perhaps Verne's book should be written to substitute a woman for Neb. I don't believe this male/female stereotype is not as significant of the Black African stereotype.

Two further characters from two previous books by Verne reappear in The Mysterious Island. They are Ayrton from Verne's (1866) Captain Grant's Children and Captain Nemo from Verne's Twenty Thousand Leagues Under the Sea. Verne did a magnificent job with these two characters, both of whom add much to The Mysterious Island.

The Jules Verne Museum in Nantes, France has many cartoon movies from various Verne's books. Certainly, European adults are more at home with cartoons than American adults. However, it might be fun to use (if available) the cartoon movie for The Mysterious Island (hopefully, with subtitles in English).

Stuart Chase first referenced Verne in "Channels of Waste" (Survey, May 15, 1926, pp. 251-254). Chase used a negative analogy for four men.

> But suppose that one had given all his energy to making mud pies, one had spent his days sleeping on the beach, one built a house on the plain by bringing stones from the top of a hill, while the last in his haste to clear a field, burnt all the timber on the island (Vangermeersch, 2005, pp. 48-49).

His second reference to Verne's book was in 1931 (Waste and the Machine Age, NY, League for Industrial Democracy). Chase wrote:

> Jules Verne once wrote a story, which he called *The Mysterious Island*. It was about four men abandoned on a desolate spot of land in the Pacific Ocean. Unlike Robinson Crusoe, they had access to no wrecked vessel from which supplies could be secured; they landed with their bare hands. But there were growing things upon the island; there were animals, minerals--the age long background of human life. And in the brain of the engineer who led the party there was science. With their bare hands they set to work. It was a desperate struggle, but step-by-step they forced back cold, hunger and desolation, and in the end transformed their island into a pleasant home which yielded food, shelter, clothing, comforts (p. 7). (from Vangermeersch, 2005, p. 64)

> …But suppose that one of the castaways had spent his days in sleeping on the beach; one had given all his energy to making mud pies; one had built a house on the shore by bringing stones from the top of the hill--when there were plenty of stones nearer at hand; while the last, in his haste to clear a field, had carelessly burned off all the timber on the island (p. 7) (from Vangermeersch, 2005, p. 64).

Chase then, like in his 1925 classic The Tragedy of Waste, explained the horrors of these behaviors:

> Four madmen! Yes, mad indeed when thus seen in miniature. But in our great society these are precisely the things which untold millions of us are constantly doing. Their mad acts illustrate the four great channels of industrial waste.
>
> 1. The sleeper on the beach represents the manpower which, on any given working day is doing nothing--by virtue of unemployment, preventable accidents and diseases, strikes and lockouts--the idle rich, the Weary Willies. The great bulk, be it observed, are idle not because they want to be, but because they are forced to be.
> 2. The mud pie maker represents the manpower which goes into the production of harmful or useless things--patent medicines, opium, super luxuries, war preparations, adulterated goods, jerry building, the bulk of advertising quackery of all kinds.
> 3. The stone house builder represents the excess manpower required to produce and distribute necessities and comforts because the technical arts--the best way of doing the job--are not made use of…
> 4. The field clearer represents the waste of natural resources. In lumber, coal, oil, natural gas, soils, minerals, the North American continent has been gutted by methods so improvident, so careless, that for every ton reclaimed, a ton and more has gone to waste.
>
> So what folly and madness for four men on a desert island turns out to be normal business-as-usual in our great industrial society, considered as a whole. *If society could be organized as the engineer organized his coworkers on the island, the present 40 millions of workers in America could, as we shall see, probably double the standard of living, utterly abolish poverty, slum dwelling, ugliness and grime, while using less raw coal and iron and lumber than we do at present and working shorter hours (pp. 8-9)* (from Vangermeersch, 2005, p. 64).

In retrospect, I should have noted in my 2005 book that only one of these four examples was a repeat of the four waste analogies--that of the sleeper on the beach--, that Chase used in his 1925 classic, The Tragedy of Waste (See Vangermeersch, 2005, p. 42). It is most likely, in my opinion now, that Chase built his 1925 book on Verne's The Mysterious Island. I also called for the unfilled need to create "Waste Heroes," rather than just emphasize "Wastrels" (Vangermeersch, 2005, p. 116). I believe that Verne supplied such "Waste Heroes" in The Mysterious Island and in other books. I quoted from Arthur Evans' Jules Verne Rediscovered: Didacticism and the Scientific Novel (1988):

> The first (and earliest) characterization of the Vernian scientist is unsparingly laudatory--albeit one-dimensional--where his courage and knowledge are exceeded only by his personal integrity and altruism. This sort…is typified by such individuals as Dr. Fergusson of Five Weeks in a Balloon, Cyrus Smith (Harding?) of Mysterious Island, or Dr. Clawbonny of The Adventures of Captain Hatteras… (pp. 82-83) (from Vangermeersch, p. 115).

I would imagine Stuart Chase read The Mysterious Island early on in his life and probably read it in the massive library that his grandfather, R. Stuart Chase had. Sonia Chase Hodson--Stuart Chase's daughter--said her father spent many summers at his grandfather's huge house in Haverhill, MA. R. Stuart Chase and his three sons--Harvey Stuart Chase (Stuart Chase's father), Arthur Taft Chase, and Clifford Hoffman Chase--were all interested in reading, writing, and debates (as was Stuart Chase). (See Vangermeersch 2002, pp. 22-25 and Vangermeersch 2005, p. 9 and p. 129).

I collected 133 excerpts from The Mysterious Island. I decided to attach key words to each and to classify them also by the 5 functions of managers in Koontz and O'Donnell (1959): (1) organizes; (2) staffs; (3) directs; (4) plans; and (5) controls.

I believe that this analysis of these excerpts show that--given the aforementioned issue of Neb--The Mysterious Island is a good basis for a one-day management seminar. The book is as easy--and even an exciting--book to read. Stuart Chase's use of this book helps illustrate the importance of this book. I urge you to at least read The Mysterious Island to make your own determination. It is possible that engineers might find Jules Verne's other books to be useful tools for learning as well.

EXCERPTS from
Jules Verne's The Mysterious Island
Using the 1927 reprint in
The Father and Son Library Series
J.H. Sears & Co. NY

(1) p. 4 Frightful indeed was the situation of these unfortunate men. They were evidently no longer masters of the machine (balloon). *Controls.* Machinery.

(2) p. 5 They were determined to struggle to the last minute, to do anything to retard their fall. *Directs*. Determination; Struggle.

(3) p. 8 One of the most distinguished (prisoners) was captain Cyrus Harding--a first class engineer. *Staffs*. Engineer

(4) p. 9 He (Harding) was one of those engineers who began by handling the hammer and pickax, like generals who first act as common soldiers. Beside mental power, he also possessed great manual dexterity. *Directs*. Tools; Knowledge and Skill in Functions.

(5) p. 9 Learned, clear-headed, and practical, he fulfilled in all emergencies those three conditions which united ought to insure human success--activity of mind and body, impetuous wishes and powerful will. *Directs.* Active; Bold Wishes; Will.

(6) p. 9 Gideon Spilett--American Chroniclers like Stanley and others, who stop at nothing to obtain exact information, and transmit it to their journal in the shortest possible time. *Organizes*. Exact Information; Communication.

(7) p. 13 It is needless to say that he (Pencroft) was a bold, dashing fellow, ready to dare anything and was astonished at nothing. *Staffs*. Daring.

(8) p. 14 They risked nothing but their lives in its execution. *Controls*. Risk.

(9) p. 15 Thus five determined persons were about to abandon themselves to the mercy of the tempestuous elements! *Controls*. Mercy.

(10) p. 19 "We are on an islet," said Pencroft, "and we have surveyed it from one extremity to the other!" *Organizes*. Survey.

(11) p. 24 There is work for everybody. *Directs*. Work.

(12) p. 25 The sailor (Pencroft) could rely upon Herbert, the young boy was well-up in natural history, and always had had quite a passion for the science. His father had encouraged him in it by letting him attend the lecturers of the best professors in Boston. *Staffs*. Knowledge; Passion; Learning.

(13) p. 27 The sailor (Pencroft) then thought that they could utilize this (tidal) ebb and flow for the transport of heavy objects. *Plans*. Transportation.

(14) p. 28 Pencroft began directly to make his raft. *Directs*. Manufacture; Work.

(15) p. 29 The sailor shook his head sadly. He little expected to see Cyrus Harding again, but wished to leave some hope to Herbert. *Directs*. Hope.

(16) p. 31 Pencroft and Herbert attentively examined the cavities in the granite, and they readily found eggs in some of the hollows. *Controls*. Attentive Examinations.

(17) p. 32 Pencroft's first care, after unloading the raft, was to render the cave habitable, by stopping up all the holes which made it draughty. *Staffs*. Usefulness.

(18) p. 32 "Perhaps," said Herbert, while he and Pencroft were working, "our companions have found a superior place to ours." "Very likely," replied the seaman, "but, as we don't know, we must work all the same. Better to have two strings to one's bow than no string at all." *Plans*. Alternatives; Work.

(19) p. 37 This small piece of wood (match), of which so many in an inhabited country are wasted with indifference and are of no value, must here be used with the greatest caution. *Controls*. Caution; Wastefulness.

(20) p. 40 The inventory of the articles possessed by these castaways from the clouds, thrown upon a coast which appeared to be uninhabited, was soon made out. They had nothing save the clothes which they were wearing at the time of the catastrophe. *Controls*. Inventory.

(21) p. 40 But here, not any instrument whatever, not a utensil. From nothing they must supply themselves with everything. *Organizes*. Supply.

(22) p. 41 The explorers, before undertaking new fatigues, must first of all recruit their strength. *Directs*. Strength.

(23) p. 42 Arrived at the forest, Pencroft broke from the first tree two stout branches, which he transformed into clubs, the ends of which Herbert rubbed smooth on a rock. *Directs*. Tools; Transformation.

(24) p. 60 Herbert ran to the beach, and returned with two large bivalve shells. The sailor concocted something which he introduced between the lips of the engineer, who, eagerly drinking it, opened his eyes. *Directs*. Tools.

(25) P. 66 The engineer was to them a microcosm, a compound of every science, possessor of all human knowledge. *Organizes*. Engineer.

(26) p. 67 However, to these mollusks the lad added some edible seaweed, which he gathered on high rocks, whose sides were only washed by the sea at the time of high tides. The seaweed, which belongs to the order of sucacae, of the genus sargussum, produces, when dry, a gelatinous matter rich and nutritious. It is used, in parts of the East very considerably by the natives. *Directs*. (in reality, self-direction or motivation); Nutrition; Other Cultures.

(27) p. 68 The sailor was wrong to despise the proceeding. Savages often kindle wood by means of rapid rubbing. But every sort of wood does not answer for the purpose, and besides, there is "the knack," following the usual expression, and it is possible that Pencroft had not "the knack." *Staffs*. Knack; Other Cultures.

(28) p. 71 "Better to put things at the worst at first" replied the engineer, "and reserve the best for a 'surprise'." *Controls*. Order

(29) p. 73 The exploration, therefore, continued and was usefully marked by a discovery which Herbert made of a tree whose fruit was edible. This was the stone pine, which produces an excellent almond, very much esteemed in the temperate regions of America and Europe. *Organizes*. Exploration; Knowledge.

(30) p. 76 And he (Harding) showed the apparatus which serves for a burning glass. It was simply two glasses which he had taken from his own and the reporter's watch. Having filled them with water and rendered their edges adhesive by means of a little clay, he thus fabricated a regular burning-glass which, concentrating the solar rays on some very dry moss, soon caused it to blaze. *Directs*. Simplicity; Tools.

(31) p. 77 Cyrus Harding had almost entirely recovered his strength, and had proved it by climbing to the upper plateau. From this point his eye, accustomed to estimate heights and distances, was fixed for a long time on the cone, the summit of which he wished to reach the next day. *Plans*. Estimation.

(32) p. 77 He (Harding) was preoccupied with projects for the next day. *Plans*. Projects.

(33) p. 78 The engineer was not a man who would allow himself to be diverted from his fixed idea. *Directs*. Fixation.

(34) p. 80 Gideon Spilett, with a stone cleverly and vigorously thrown, killed one of these tragopans. … *Directs*. Skill.

(35) p. 84 "An island?" said he (Harding), at the moment when the lunar crescent disappeared beneath the waves. *Organizes*. Map.

(36) p. 85 The engineer merely told his companions that the land upon which fate had thrown them was an island, and that the next day they would consult. *Plans*. Consultation.

(37) p. 87, 88 This was in fact the exact shape of the island, which it is of consequence to know and a tolerably correct map of it was immediately drawn by the reporter (Spilett). *Organizes*. Map.

(38) p. 91 "I (Harding) wish to hide nothing of our position from you." *Directs*. Truth.

(39) p. 91 (Pencroft) "It is that we do not consider ourselves castaways, but colonists, who have come here to settle." *Organizes*. Colonists.

(40) p. 91 (Harding) "It seems to me it would be a good thing to give a name to this island, as well as to the capes, promontories, and watercourses, which we can see." Very good, said the reporter." In the future that will simplify the instructions which we shall have to give and follow." *Organizes*. Names; Communication; Simplicity.

(41) p. 92 (Pencroft) "Let us give them names, as the Robinson (Swiss Family Robinson) did …" *Organizes*. Names.

(42) p. 92 The engineer's proposal (for Namings) was unanimously agreed to by his companions. *Controls*. Agreement.

(43) p. 96 It had been agreed that without forming a compact band, the settlers should not stray away from each other. *Directs*. Contact.

(44) p. 100 "Captain," said Pencroft, when the engineer and the reporter had rejoined them, "Captain, you see quite well we can't get on unless we make a few guns. Will that be possible? "Perhaps" replied the engineer; "but we will begin by first manufacturing some bows and arrows, and I don't doubt that you will become as clever in the use of them as the Australian hunters." *Directs*. Skill; Other Cultures; Tools.

(45) p. 103 (Harding) "My friends, this is iron mineral, this is a pyrite, this is clay, this is lime, and this is coal. Nature gives us these things. It is our business to make a right use of them. Tomorrow we will commence operations. *Organizes*. Right use; Natural Resources.

(46) p. 104 It must be said, however, that the settlers were "men" in the complete and higher sense of the word. The engineer Harding could not have been seconded by more intelligent companions, nor with more devotion and zeal. He had tried them. He knew their abilities. *Staffs*. Known Abilities; Devotion; Zeal.

(47) p. 105 (Harding) "Now, fuel, wood or coal, was ready for immediate use, an oven must be built to use it." …
"And of what shall we make the oven?"
"With bricks."
"And the bricks?"

"With clay. Let us start, my friends. To save trouble we will establish our manufactory at the place of production. Neb will bring provisions, and there will be not lack of fire to cook the food. *Directs*. Machinery; Location.

(48) p. 105 The dog (Top) came at his master's call. The latter took Tops head between his hands, and unfastened the collar which the animal wore around his neck; he broke it in two saying: "There are your two knives, Pencroft." *Directs*. Tools; Simplicity.

(49) p. 106 On the way Herbert had discovered a tree the branches of which the Indians of South America employed for making their bows. It was the crejimba, of the palm family, which does not bear edible fruit. *Organizes*. Knowledge; Other Cultures.

(50) p. 107 It was on the 2nd of April that Harding had employed himself, in fixing, the orientation of the island, or, in other words, the precise spot where the sun rose. *Organizes*. Location.

(51) p. 107 The reporter and Herbert soon became very skillful archers. *Directs*. Skill.

(52) p. 108 …but they preserved some capybara hams, by smoking them about a fire of green wood, after, having perfumed them with sweet-smelling leaves. *Directs*. Preservation.

(53) p. 110 The engineer discovered a substance which replaced tinder. It is known that a spongy, velvety flesh is procured from a certain mushroom of the genus polyporous. *Organizes*. Knowledge.

(54) p. 114 Herbert, wishing to learn everything he could, followed the engineer to the beach. Pencroft, Neb, and the reporter remained behind and occupied themselves in different ways. *Directs*. Learning; Work; Desire.

(55) p. 117 But what would be of more use, was the discovery by Neb, at low tide, of a large oyster bed among the rocks, nearly five miles from the chimneys. *Organizes*. Exploration.

(56) p. 126 It was in fact, a blowing-machine (bellows) necessary for the treatment of the ore that the engineer wished to manufacture with the skins of the amphibious creatures (seals). *Directs*. Manufacture; Tools.

(57) p. 127 It was necessary to beat a path, which would in the future form the most direct road to Prospect Heights and Mount Franklin. *Organizes*. Transport.

(58) p. 128 Cyrus Harding, accompanied by Herbert, went to look for the soil of ancient formation (lava), on which he had already discovered a specimen of ore. *Organizes.* Natural Resources.

(59) p. 128, 129 This ore, very rich in iron, enclosed in its fusible veinstone, was perfectly suited to the mode of reduction which the engineer intended to employ; that is, the Catalan method, but simplified, as it is used in Corsica… Doubtless it was the proceeding employed by Tubal Cain, and the first metallurgist of the inhabited world. *Organizes*. Simplicity; Other Cultures; Knowledge; Natural Resources.

(60) p. 130 He (Harding) then worked this steel, which is malleable both when hot or cold, with the hammer. Neb and Pencroft, cleverly directed, made hatchets, which, heated red-hot, and plunged suddenly into cold water, acquired as excellent temper. *Directs*. Tools; Manufacture.

(61) (Harding) "And then, my friends, we must foresee everything…" *Plans*. Projections.

(62) p. 132 Harding "A natural dwelling would spare us much work, and would be a surer retreat, for it would be as well defended against enemies from the interior as those from outside." *Organizes*. Defense.

(63) p. 142 Neb and Pencroft were first of all told to extract the grease from the dugong, and to keep the flesh, which was destined for food. *Directs*. Utility Maximization.

(64) p. 144 During the following days the settlers had time to construct a furnace of bricks of a particular arrangement to serve for the distillation of the sulphate of iron when it had been obtained. *Directs*. Machinery.

(65) p. 144 Before all masters, necessity is the one most listened to and who teaches the best. *Plans*. Necessity.

(66) p. 144 The engineer had none of these at his disposal, but he knew that, in Bohemia especially, sulfuric acid is manufactured by very simple means. *Directs*. Simplicity; Other Cultures.

(67) p. 149 Pencroft had erased the word "impossible" from the dictionary of Lincoln Island. *Directs* Can Do; Optimism.

(68) p. 156 Their former dwelling (the Chimneys) was not, however, to be entirely abandoned, for the engineer intended to make a manufactory of it for important works. *Organizes*. Use.

(69) p. 157 (Harding) "We must be provided against every contingency." *Plans*. Defense.

(70) p. 158 There was no want of space, so that each object could be methodically arranged. *Controls*. Order; Storage.

(71) p. 158 Cyrus Harding, therefore, resolved to proceed without any further delay to the fabrication of a strong rope ladder, which, once raised, would render Granite House completely inaccessible. *Directs*. Defense.

(72) p. 159 These different works progressed rapidly under the direction of the engineer, who himself handled the hammer and the trowel. No labor came amiss by Cyrus Harding, who thus set an example to his intelligent and zealous companions. *Directs*. Engineer; Hands-on; Leadership by Example.

(73) p. 159 The engineer let Pencroft talk. He did not put down the aspirations of his brave heart. He knew how communicable confidence is, … *Directs*. Confidence.

(74) p. 160 In fact, they were energetic; an energetic man will succeed where an indolent one would vegetate and inevitably perish. *Directs*. Energetic.

(75) p. 161 …a slightly damp meadow, covered with willows and aromatic herbs which scented the air, such as thyme, basil, savory, all the sweet-scented species of the labiated plants. Herbert gathered several shoots of the basil, rosemary, balm, betony, etc. *Organizes*. Exploration; Gather.

(76) p. 162 He (Herbert) wished to stock their larder first, and domesticate those which they might take later. *Plans*. Domesticate.

(77) p. 163 There would never be any want of water at Granite House. *Organizes*. Natural Resources.

(78) p. 166 "Tomorrow, by having a seal hunt."
"To make candles?"
"Yes." *Directs*. Manufacture.

(79) p. 166 Neb and Pencroft skinned them, and only brought back to Granite House their fat and skin, this skin being intended for the manufacture of boots. *Directs*. Manufacture; Store.

(80) p. 167 In fact, the waterfall created by the explosion rendered the construction of two bridges necessary. *Organizes*. Transportation.

(81) p. 169 "Look here, captain--a grain of corn!" *Organizes*. Store.

(82) p. 173 During this period of cold Cyrus Harding had great cause to congratulate himself on having brought to Granite House the little stream of water from Lake Grant. Taken before the frozen surface, and conducted through the passage, it preserved its fluidity, and arrived at an interior reservoir which had been hollowed out at the back part of the storeroom, while the overflow ran through the well to the sea. *Controls*. Natural Resources.

(83) p. 179 One shot from a gun would certainly have brought down some dozen of the birds, they were, however, obliged to content themselves with bows and arrows. The result was less, but the silent arrow has the advantage of not frightening the birds. *Directs*. Tools.

(84) p. 181 and the rodents or carnivore which might get into the newsnares would be well received at Granite House. *Organizes*. Tools.

(85) p. 184 During these days of seclusion the settlers did not remain inactive. …Then the carpenters became basketmakers. *Directs*. Work.

(86) p. 190 An enclosure for the domestic animals, a poultry yard for the birds, in a word, to establish a sort of farm in the island, such were the two important projects for the fine season. *Plans*. Projects.

(87) p. 194 "Yes, a real boat," replied the sailor; "but we do not want one for a sea voyage, and in five days at the most I will undertake to construct a canoe fit to navigate the Mercy." *Plans*. Tools; Manufacture; Transport.

(88) p. 203 The canoe, impelled by the two oars, advanced without difficulty. Gideon Spilett, pencil in one had and notebook in the other, sketched the coast in bold strokes. *Organizes*. Map.

(89) p. 205 "We will tow this chest to Granite House," said the engineer, "where we can make an inventory of its contents; …" *Controls*. Inventory.

(90) p. 212 Without expecting game, some useful plant might be met with, and the young naturalist (Herbert) was delighted with discovery a sort of wild spinach, belonging to the order of chenopodiaceae, and numerous specimens of cruciferal, belonging to the cabbage tribe, which it would certainly be possible to cultivate by transplanting. *Organizes*. Exploration; Cultivation.

(91) p. 213 During one of the excursions Gideon Spilett managed to get hold of two couples of living gallinaceae. They were birds with long, thick beaks, lengthened neck, short wings, and without any appearance of a tail. Herbert rightly gave them the name of tinamous, and it was resolved that they should be the first tenants of their future poultry yard. *Organizes*. Stores; Explore.

(92) p. 217 but since they had an abundant supply of provisions, it was a pity to waste their ammunition. *Directs*. Conservation.

(93) p. 224 Among the last trees of the forest of the Far West the boy (Herbert) found several thick clumps of bamboos. *Organizes*. Exploration.

(94) p. 226 It was not the engineer who had invented this way of causing loud explosions, for, according to Marco Polo, the tatars have employed it for many centuries to drive away from their encampments the formidable wild beasts of Central Asia. *Organizes*. Simplicity; Other Cultures.

(95) p. 244 Nevertheless, they drew themselves on the orang, who defended himself gallantly, but was soon overpowered and bound. "There!," said Pencroft. "And whist shall we make of him now that we've got him?" "A servant!," replied Herbert. The lad was not joking in saying this, for he knew how this intelligent race could be turned to account. *Organizes*. Tools.

(96) p. 250 In fact, the first cornfield sown with a single grain had prospered admirably, thanks to Pencroft's care. It had, produced the ten ears foretold by the engineer, and each ear containing eighty grains, the colony found itself in possession of eight hundred grains in six months, which promised a double harvest each year. *Control*. Natural Resources.

(97) p. 253 The sailor, without frightening the animals, crept through the grass to the bridge over Creek Glycerin, lowered it, and the orangs were prisoners. *Directs*. Skill.

(98) p. 255 There was no lack of thread, thanks to Cyrus Harding's idea of reemploying that which had been already used in the covering of the balloon. This with admirable patience was all unpicked by Gideon Spilett and Herbert, for Pencroft had been obliged to give this work up…; but he had no equal in the sewing part of the business. *Directs*. Work; Transformation.

(99) p. 250 Cyrus Harding still recommended them to husband the ammunition. *Directs*. Conservation.

(100) p. 257 Several excursions were made into the Jacamar Woods and forests of the Far West, and they brought back from thence a large collection of wild vegetables… *Organizes*. Explorations; Stores.

(101) p. 260 This enclosure would be large enough to contain a hundred musmons and wild goats, with all the young ones they might produce. *Organizes*. Stores; Renewals.

(102) p. 261 Before the cold season should appear the most assiduous care was given to the cultivation of the wild plants which had been transplants from the forest to Prospect Heights. Herbert never returned from an excursion without bringing home some useful vegetable. *Controls*. Renewal; Exploration.

(103) p. 262 Nature did much for them, doubtless; but faithful to the great precept, they made a right use of what a bountiful Providence gave them. *Directs*. Right Use; Natural Resources.

(104) p. 263 And, now, thanks to the knowledge of their captain, and their own intelligence, they were regular colonists furnished with arms, tools and instruments; they had been able to turn to their profit the animals, plants, and minerals of the island, that is to say, the three kingdoms of nature. *Organizes*. Transformation; Profit.

(105) p. 264 On seeing these hailstones, some of which were the size of a pigeon's egg, Pencroft's first thought was that his cornfield was in serious danger.
He directly rushed to his field, where little green heads were already appearing, and, by means of a great cloth, he managed to protect his crop. *Controls*. Defense.

(106) p. 265 Besides, he (Herbert) improved himself during the leisure hours which manual occupations left to him; he read the books found in the case; and after the practical lessons which were taught by the very necessity of their positions, he found in the engineer for science, and the reporter for languages, masters who were delighted to complete his education. *Organizes*. Learning.

(107) p. 267 Now the beach supplied sand, limes supplied chalk, seaweeds supplied soda, pyrites supplied sulphuric acid, and the ground supplied coal to heat the kiln to the wished-for temperature. *Controls*. Natural Resources.

(108) p. 277 They resolved to begin cutting it (whale) up before decomposing should commence. *Controls*. Work; Store.

(109) p. 281 And indeed he proposed to make use of the property which the filaments of wool possess when subjected to a powerful pressure of mixing together, and of manufacturing by this simply process the material called felt. *Directs*. Simplicity; Manufacture.

(110) p. 282 for he (Harding) knew how to turn ingeniously to profit the mechanical force, hitherto unused, which the waterfall on the beach possessed, to move a fulling-mill. *Controls*. Natural Resources.

(111) p. 294 "What is done cannot be undone," replied Cyrus Harding." We must consult what it will now be best do to." *Plans*. No Recriminations; Consultation.

(112) p. 312 What, then, was Herbert's joy, when he recognized potatoes, chicory, sorrel, carrots, cabbages, and turnips, of which it was sufficient to collect the seed to enrich the soil of Lincoln Island. *Organizes*. Store; Natural Resources.

(113) p. 316 "Then do not let us lose time," said Herbert. *Directs*. Time.

(114) p. 337 There was always something to be done. They set to work by choosing timber for the frame and machinery of the (wind) mill. *Directs*. Work; Manufacture; Machinery.

(115) p. 353 "Chance will, perhaps, give us the key to this mystery!"

"Chance! Spillett, (Harding) I do not believe in chance any more than I believe in mysteries in this world. There is a reason for everything unaccountable which has happened here, and the reason I shall discover. But in the meantime we must work and observe." *Plans*. Observation; Rationality.

(116) p. 354 "Why, how are you gong to manage that, captain?" asked Pencroft. "Do you by chance happen to think of establishing a telegraph?" *Directs*. Tools.

(117) p. 356 Cyrus Harding, after mature consideration, decided to manufacture a very simple battery, resembling as hearly as possible that invented by Becquerel in 1820, and in which zinc only is employed. The other substances, azutic acid and potash, where all at his disposal. *Plans*. Simplicity; Knowledge; Natural Resources.

(118) p. 359 The engineer sometimes took part in the expeditions made to the unknown parts of the island, which he surveyed with great attention. *Organizes*. Exploration; Survey.

(119) p. 418 The three following days were employed in saving everything of value, or of any use whatever, either from the cargo or rigging of the brig (of the sunken pirate vessel). *Directs*. Conservation.

(120) p. 424 All was stowed away, and happily there was no want of room in Granite House, in which they might have housed all the treasures of the island. The products of the colony were there, methodically arranged, and in a safer place, as may be believed, sheltered as much from animals as from man. *Controls*. Order; Stores.

(121) p. 463 The kitchen garden was destroyed. Happily, Granite House possessed a store of seed which would enable them to repair these misfortunes. *Controls*. Replenish; Stores.

(122) p. 478 This plan was unanimously approved by the colonists, … *Plans*. Approval.

(123) p. 498 Nothing suspicious was discerned, but still it was necessary for them to be on their guard. *Plans*. Defense.

(124) p. 502 Besides, they did not wash more than four times a years, as was done by families in the olden times… *Directs*. Simplicity.

(125) p. 504 However, the past did not necessarily answer for the future. Often, at the summit of volcanoes, the old craters close and new ones open. *Plans*. Unpredictability.

(126) p. 565 The building of the vessel was hastened as much as possible, and, by means of he waterfall on the shore, Cyrus Harding managed to establish a hydraulic sawmill, which rapidly cut up the trunks of trees into plants and joists. *Directs*. Manufacture; Natural Resources; Machinery.

(127) p. 523 Captain Nemo had saved Cyrus Harding. It was he also who had brought back the dog to the Chimneys, who rescued Top from the waters of the lake, who caused to fall at Flotsam Point the case containing so many things useful to the colonists, who conveyed the canoe back into the stream of the Mercy, who cast the cord from the top of Granite House at the time of attack by the baboons, who made known the presence of Ayrton upon Tabor Island, by means of the document enclosed in the bottle, who caused the explosion of the brig by the shock of a torpedo placed at the bottom of the canal, who saved Herbert from a certain death by bringing the sulphate of quinine; and finally, it was he who had killed the convicts with the electric balls, of which he possessed the secret, and which he employed in the chase of submarine creatures. Thus were explained so many apparently supernatural occurrences, and which all proved the generosity and power of the captain.

Nevertheless, this noble misanthrope longed to benefit his *protégés* still further. There yet remained much useful advice to give them, and, his heart being softened by the approach of death, he invited, as we are aware, the colonists of Granite House to visit the Nautilus, by means of a wire which connected it with the corral. Possibly he would not have done this had he been aware that Cyrus Harding was sufficiently acquainted with his history to address him by the name of Nemo. *XXXX*. Goodwill of Others.

(128) p. 528 "That coffer yonder contains diamonds of the value of many millions, most of the, mementos of the time when, husband and father, I thought happiness possible for me (Captain Nemo) and a collection of pearls… Of this treasure, at a future day, you may make good use." *Organizes*. Right Use; Resources.

(129) p. 531 "Gentlemen," said the captain (Nemo), "you are brave and honest men. You have devoted yourselves to the common weal. Often, have I observed your conduct. I have esteemed you--I esteem you still! Your hand, Mr. Harding." *XXXX*. Goodwill of Others; Devotion.

(130) p. 56 During the five ensuing days Cyrus Harding and his unfortunate companions husbanded their provisions with the most extreme care, eating only what would prevent them from succumbing to starvation. *Directs*. Conservation.

(131) p. 563 The larger portion (of Captain Nemo's treasure) was employed in the purchase of a vast territory in the State of Iowa. *Organizes*. Natural Resources.

(132) p. 563 There, upon this domain, the colonists invited to labor, that is to say to wealth and happiness, all those to whom they had hoped to offer the hospitality of Lincoln Island. There was founded a vast colony to which they gave the name of that island sunk beneath the waters of the Pacific. A river was there called the Mercy, a mountain took the name of Mount Franklin, a small lake was named Lake Grant, and the forests became the forests of the Far West. It might have been an island on *terra firma*. *Directs*. Work.

(133) p. 563 There, under the intelligent hands of the engineer and his companions, everything prospered. Not one of the former colonists of Lincoln Island was absent, for they had sworn to live always together. Neb was with his master; Ayrton was there ready to sacrifice himself for all; Pencroft was more a farmer than he had even been a sailor; Herbert, who completed his studies under the superindence of Cyrus Harding; and Gideon Spilett, who founded the "New Lincoln Herald," the best informed journal in the world. *Staffs*. Engineer; Learning; Information.

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